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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/511,163

08/04/2005

Arthur J. Roth

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03/04/2009

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EXAMINER

COLE, ELIZABETH M

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

03/04/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/511,163	<b>Applicant(s)</b> ROTH ET AL.	
	<b>Examiner</b> Elizabeth M. Cole	<b>Art Unit</b> 1794	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 December 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 68-70, 72-75, 77-84, 88, 120, 121 and 124 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 68-70, 72-75, 77-84, 88, 120-121, 124 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 68-70, 72-75, 77-84, 88, 120-121, 124 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motoi et al, U.S. Patent NO. 6,635,343 in view Schroll et al, U.S. Patent no. 5,366,773. Motoi et al discloses a method of making a composite material comprising providing a fibrous layer, applying a thermosetting resin precursor to the fibrous layer, forming the layer into a tube, (which corresponds to the claimed sleeve-like configuration), injecting a fluid matrix resin into the sleeve and holding the components so that they are held in place and subjected to heating and cooling in order to foam and cure the components. See col. 27, line 39 – col. 29, line 24, as well as figure 12. Motoi teaches that suitable resins for the thermosetting resin precursor include polyurethanes, phenolic resins, polyester, epoxy resins, urea resins, and melamine resins. See col. 15, lines 31-38. Urea melamine and melamine formaldehyde resins are not specifically disclosed by Motoi, however, since Motoi teaches urea and melamine resins broadly, the person of ordinary skill would have been able to select particular known types of these resins for use, in view of the art recognized suitability. Motoi teaches that suitable thermoplastic resins include polystyrene resins. See col. 11, lines 21-31. Motoi teaches that composite may further comprise various fillers including vitreous materials such as ground glass, carbonaceous materials, plastics and rubbers. See col. 6, lines 31-49. With regard to

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the particular amounts of filler used, since the filler is used to reinforce and also to either increase or decrease the weight of the composite, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the particular amounts through the process of routine experimentation which produced the desired weight, strength, etc. Suitable fibrous materials for use in the invention of Motoi include glass and polyester fibers. See col. 18, lines 38-50. While Motoi teaches the general process as set forth above, Motoi does not specifically teach providing a layer of porous web material and a layer of parallel strands as the sleeve forming material, wherein the porous material is on the outside of the sleeve in a single embodiment. However, Motoi teaches that the outer layers of the composite material can comprise one or more layers of fibrous material such as parallel fibers, unidirectional fibers, bidirectional fibers and sewn mats. See col. 12, lines 14-27. Bidirectional mats are equated to the claimed laterally connected parallel fibers extending in the longitudinal direction of the web material. Motoi further teaches additional reinforcing layers of paper can be added to the structure as well as film layer such as polyvinyl alcohol, see col. 18, lines 37-50 and col. 14, line 67 – col. 15, line 5. Therefore, the person of ordinary skill would have recognized that Motoi teaches the claimed elements and teaches that the elements can be combined by the process as set forth above at col. 27-29. Motoi teaches the outer sleeve comprising the parallel fibers, the resin impregnation, the shape stabilization, and curing of the resin precursor. While Motoi does not teach adding the outer paper layer, the polyvinyl alcohol layer or the additional fibrous layers to the embodiment set forth at cols. 27-29, since Motoi

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teaches that such additional layers can be added to the composite material in order to further strengthen the composite material, one of ordinary skill in the art would have been able to select additional layers, such as the claimed porous web material layer and polyvinyl alcohol layer, in view of the teaching of Motoi that such layers can be added to the composite material. With regard to the newly added limitations, Motoi does teach including a polyvinyl alcohol layer as one of the possible surface layers and presumably the PVOH layer would function as a barrier layer since it is the same material. Motoi differs from the claimed invention because it does not teach shaping the sleeve on a mandrel. However, Schroll et al teaches a process for making a tubular member comprising an outer shell of a fiber reinforced polymer such as an epoxy resins wherein the fibrous reinforcement is a combination of a fiber roving of aligned parallel continuous fibers and a mat reinforcement (col. 4, lines 50-52 and col. 3, lines 47-50) comprising impregnating the roving and mat with an uncured resin and then wrapping and shaping the combined fiber elements around a mandrel. See col. 3, lines 47 – col. 4, line 14. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have shaped the sleeve of Motoi on a mandrel, since Schroll teaches that a mandrel is useful for shaping tubular members comprising outer layers of fiber reinforced polymer.

3. Applicant's arguments have been fully considered but are moot in view of the new grounds of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571)

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272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

The examiner's supervisor Rena Dye may be reached at (571) 272-3186.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

/Elizabeth M. Cole/  
Primary Examiner, Art Unit 1794

e.m.c

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